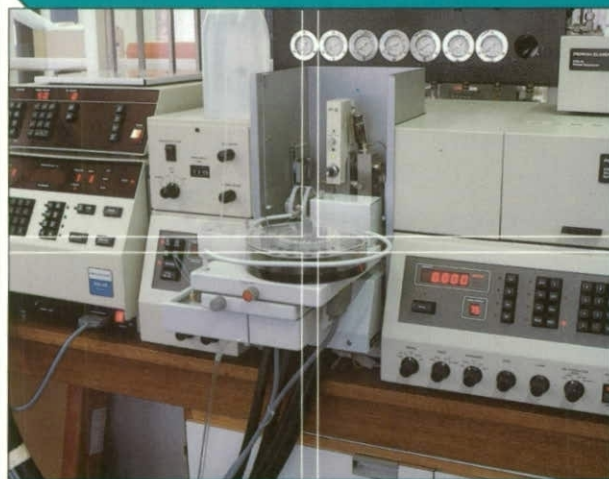
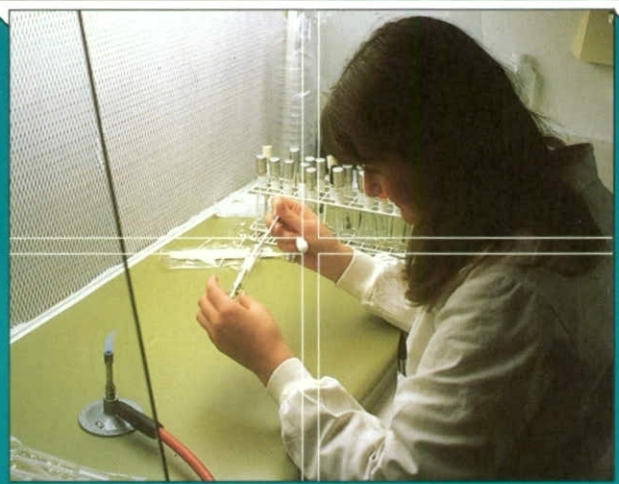
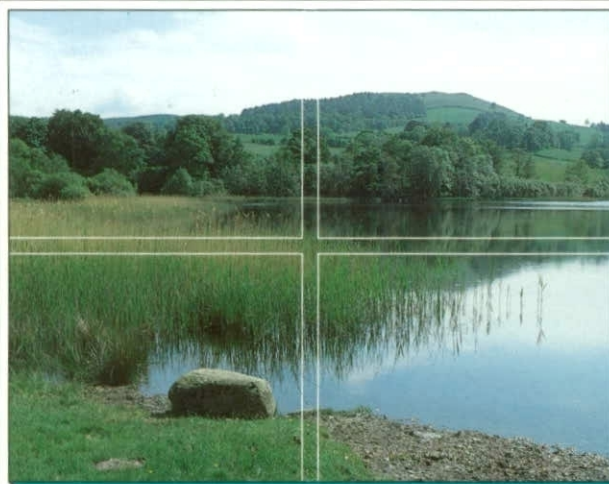




Institute of
Freshwater
Ecology

An audit of performance in the processing of macro-invertebrate samples in 1991. NRA Northumbrian Region

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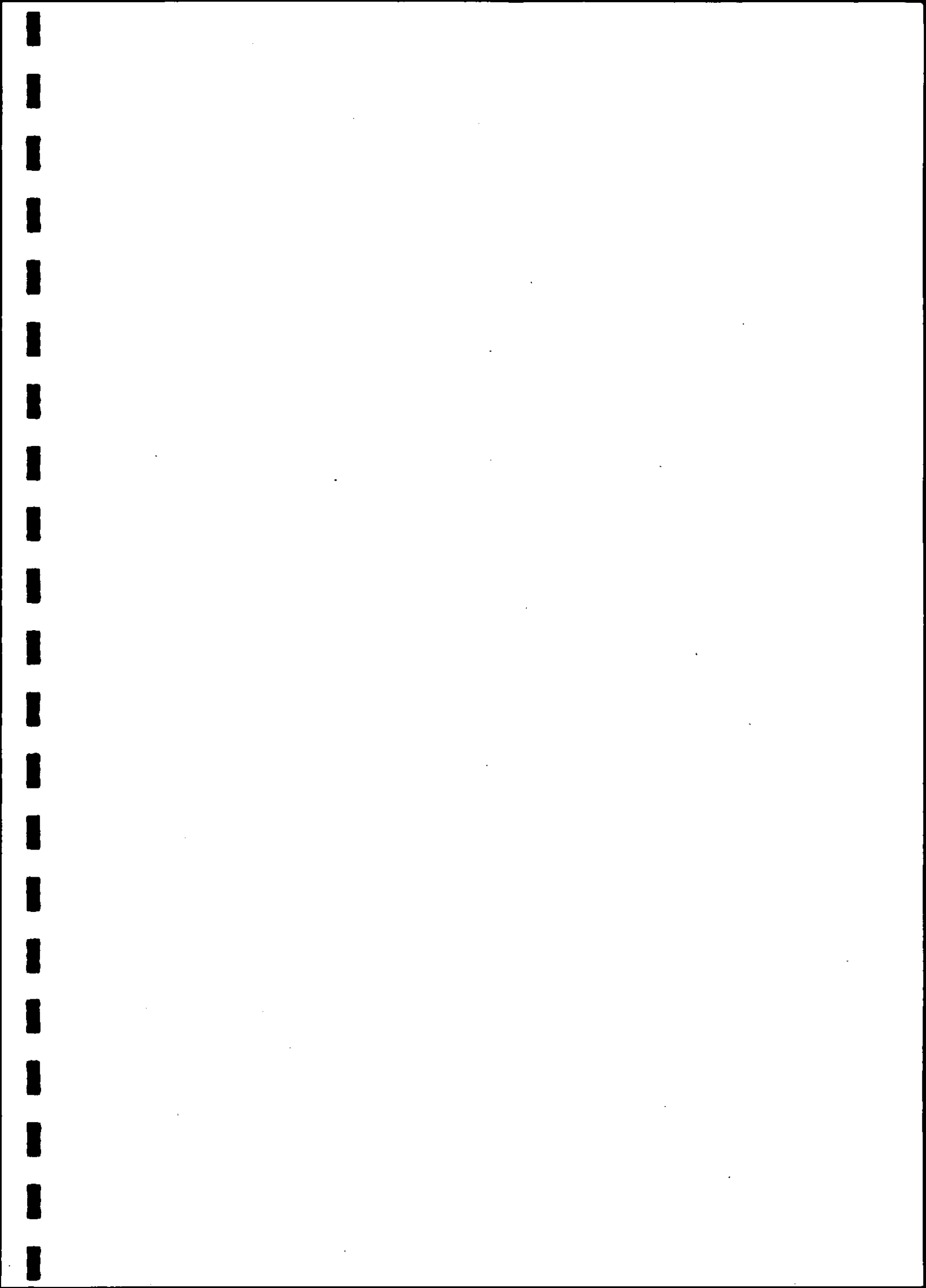
**An audit of performance in the processing
of macro-invertebrate samples in 1991.
NRA Northumbrian Region**

R.J.M. Gunn, J.F. Wright, J.M. Winder & J.H. Blackburn

Project leader:	J.F. Wright
Report date:	May 1992
Report to:	National Rivers Authority Northumbrian Region
IFE Report Ref:	RL/T04053x1/02
TFS Project No:	T04053x1

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The Institute of Freshwater Ecology is part of the Terrestrial and Freshwater Sciences Directorate of the Natural Environment Research Council.



1. INTRODUCTION

In 1991 the sampling of aquatic macro-invertebrates for the biological assessment of river quality continued throughout the United Kingdom. In England and Wales this task was undertaken by the National Rivers Authority (NRA), the River Purification Boards (RPBs) sampled in Scotland and the Department of Economic Development (DED) undertook the work in Northern Ireland.

The majority of sites were sampled in spring, summer and autumn. Standard collection procedures, as used in the 1990 River Quality Survey, were retained and the sampling strategy was therefore compatible with RIVPACS (River InVertebrate Prediction And Classification System), which has been developed by the Institute of Freshwater Ecology (IFE). For a variety of reasons, a few locations were sampled in just one or two seasons.

Samples were sorted by NRA, RPB and DED personnel for the families of macro-invertebrates included in the Biological Monitoring Working Party (BMWP) system. Taxa present were recorded on site data sheets. Sample processing and recording techniques varied from region to region.

In view of the number of staff involved and the variability of sample processing techniques, it was recognised that an independent quality control exercise was necessary to promote a consistently high level of reliability. As in 1990, the IFE was contracted to undertake an audit of the sample sorting and identification performance of each NRA region, several RPBs and the DED. This report presents the results of 60 samples audited for Northumbrian Region of the NRA. The IFE was not required to perform any statistical analyses nor interpretation of the results of the audit.

2. SAMPLE SELECTION

Samples for audit were selected internally by each of the agencies being monitored. The biologists processing these samples had no prior knowledge of the samples to be audited.

The manner of sample selection, which biologists would be monitored and the number of audit samples from each season, were left to the discretion of the agency, within the limits of the total number of samples that IFE was contracted to audit.

3. SAMPLE PROCESSING

The normal protocol for NRA, RPB and DED biologists was to sort their samples within the laboratory and to select examples of each scoring taxon within the BMWP system. In most cases, the invertebrates were placed in a vial of preservative (4% formaldehyde solution or 70% industrial alcohol) and the BMWP taxa were listed on a data sheet. The vial of animals and the sorted material were then returned to the sample container and preservative added. Thus, each sample available to IFE for audit should have included:

- i) a list of the BMWP FAMILIES FOUND IN THE SAMPLE
- ii) a vial containing representatives from each family
- iii) the preserved sample

When these three elements were present, the sequence of operations at IFE was as follows:

- a) The remainder of the sample was sorted and the BMWP families listed
- b) The families contained within the vial were identified and listed
- c) A comparison was made between the NRA listing of families and those identified from the vial by IFE
- d) A comparison was made between the NRA listing of families and those found in the sample by IFE
- e) "Losses" or "gains" from the NRA listing of families were noted. In the case of "gains", each additional family was identified, where possible, to species level, in order to clarify any specific repetitive errors.

For a number of different reasons, some samples did not include a vial containing representative examples of the families listed on the data sheet. Others arrived with the vial damaged in transit such that the representative examples were no longer separated. For these samples, only operations a), d) and c) above were appropriate.

Several directives were issued to IFE relating to the treatment of BMWP taxa. Terrestrial representatives of BMWP scoring families, animals deemed to have been dead at the time of sampling, cast insect skins, pupal exuviae, empty mollusc shells and posterior ends of "living" specimens were to be excluded from the listing of families present. Trichopteran pupae, although not routinely identified by many biologists, were to be included in the listing of families.

4. REPORTING

The results of each sample audit were recorded on a standard report form (Table 1). For audit samples where a vial of animals was included, the comparison between the NRA listing and the taxa found in the vial by IFE was shown in box A of the report form. Discrepancies could be due to carelessness, misidentifications or errors in completing the NRA data sheet. Families not on the NRA listing but found by IFE in the remainder of the sample were entered in box B of the report form under "additional families". When the families listed as "losses" in section A of the report form were compared with the full list of families recorded in the sample by IFE, some apparent losses from the vial were offset by the presence of those families in the remainder of the sample. These taxa were therefore listed in the "losses" box of section A and the "gains" box of section B and were neither a net loss nor a net gain. In these cases, the families were marked with an asterisk in both boxes. Such errors are noted as "omissions" in the tables which summarise the results for each season (Tables 2, 3 and 4).

Species identifications, state of development (eg adult or larval coleopterans) and the presence of a single representative of a family within the remainder of the sample were recorded in the notes section of the report form. Where the NRA data sheet indicated that a family was noted and released at the site, this was recorded in the notes section but not included as a "loss", even though the family was not found in the vial.

For those samples in which the vial of animals was damaged or missing, box A of the report form was not applicable (N/a). Families not on the NRA list but present in the sample were listed in box B under "additional families" as before. Families recorded on the NRA list but not found by IFE were indicated on the left hand side of box B. If the vial of animals was retained by the NRA, entries in this box could include the sole representative of a family which was removed by the NRA, a family seen at the site which escaped or was released (without mention being made on the NRA data sheet), inaccurate identification, the wrong family box being ticked on the NRA data sheet or the family being present in the sample but missed by IFE.

Results of the audits of individual samples are presented in the Appendix.

ACKNOWLEDGEMENTS

Thanks to Mike Furse for help and advice, to Kay Symes and Angela Matthews for assistance with cataloguing and storage of samples and to Valerie Palmer and Diana Morton for typing the manuscript.

TABLE 1. The IFE Report form

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<input type="text"/>	RIVER	<input type="text"/>
DATE	<input type="text"/>	SITE	<input type="text"/>
SORTER	<input type="text"/>	SAMPLE CODE	<input type="text"/>
AQC OF BMWP FAMILIES		A. IN VIAL	<input type="checkbox"/>
		B. IN SAMPLE	<input type="checkbox"/>

		LOSSES	AINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	

NET LOSSES NET AINS

NOTES

TABLE 2. The 20 spring samples audited for Northumbrian Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Brierdene Burn	Whitley Bay	AP	0	1	0
Wear	Wearhead	SS	0	1	0
South Tyne	Alston	DH	0	2	0
Wansbeck	Morpeth	PS	0	1	0
Arngill Burn	Arngill House	DH	1	1	0
Woodham Burn	Low Copelaw	VW	0	1	1
Horsley Hope Burn	D/s Confluence	SS	1	1	1
Long Nanny	Tuggal Grange	AP	0	0	0
Hazon Burn	Whittle Co	PS	0	3	0
Whitton Beck	Whitton	VW	0	2	0
Wreigh Burn	Thropton	PS	0	2	0
Greta	Greta Bridge	VW	0	2	0
Browney	A167 Bridge	DH	1	0	0
Killhope Burn	Wearhead	SS	0	1	0
West Allen	Carr Shield	SS	0	1	0
Smallhope Burn	Low Meadow	SS	0	1	0
Howdon Burn	U/s Wansbeck	PS	1	3	1
Lumley Park Burn	Bournmoor	DH	1	0	0
Barrasford	D/s Gravel Pit	PS	1	1	0
Aln	Abberwick	PS	0	0	0

TABLE 3. The 20 summer samples audited for Northumbrian Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'

River	Site	Sorter	Losses	Gains	Omissions
Morton Wood Beck	B1380 Bridge	VW/PS	0	1	0
Summerhouse Beck	Carlbury	AP	2	2	0
Alwin	Alwinton	PS	0	2	0
Saltergill Beck	Low Worsal	SS	0	0	0
South Tyne	Haydon Bridge	DH	0	1	0
Ouse Burn	Salters Bridge	AP	0	1	0
Tees	Neasham	SS	0	0	0
Kilton Beck	Lodge Wood	VW	0	0	0
Font	Mitford	DH/DH	0	3	0
Langley Beck	Staindrop	DH	1	1	0
Allerdean Mill Burn	Nabhill	PS	0	0	0
West Allen	Burnmouth	AP	0	1	0
Don	Jarrow Cemetery	SS	0	0	0
Coquet	Low Alwinton	PS/DH	0	0	0
Wear	Willington Bridge	VW	0	2	0
Till	Doddington Bridge	PS/SS	0	0	0
Level	Hutton Rudby	VW	1	2	0
Newhouse Burn	A691 Bridge	PS	0	2	1
Killhope Burn	Wearhead	VW	0	2	0
Coldcoats Burn	Eastcoats Farm	DH	0	3	0

TABLE 4. The 20 autumn samples audited for Northumbrian Region, with sample sorter initials and numbers of taxa 'lost', 'gained' and 'omitted'.

River	Site	Sorter	Losses	Gains	Omissions
South Tyne	Haltwhistle	DH	0	2	0
East Allen	U/s Allenheads	SS/SS	0	0	0
Rennington Burn	Howick Hall	AP/DH	0	1	0
Spen Burn	Rowlands Gill	VW/SS	0	1	0
Long Nanny	Tuggal Grange	AP	0	1	0
Wear	Finchdale Park	SS/VW	0	1	0
Pont Burn	B6310 Bridge	SS	3	2	0
Tees	Low Con	PS	0	2	0
Bedburn Burn	Newhall	SS	1	2	0
Coquet	Pauperhaugh	DH	0	1	0
Tees	Hurworth	AL/SS	2	1	0
Embleton Burn	Embleton Mill	VW	0	0	0
Rookhope Burn	Eastgate	DH	0	1	0
Valley Burn	Woodhouse Farm	SS	0	0	0
Middle Gill	Loftus	SS/AP	0	2	0
Hartley Burn	Burntfoot	SS	0	0	0
Tinklers Gill	Embleton	PS	1	2	0
Kilton Beck	Skinningrove	PS/PS	1	1	0
Grasslees Burn	Swindon	VW	0	0	0
Ridlees Burn	Linshields	DH	0	0	1

APPENDIX

Results of individual sample audits

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample) ADDITIONAL FAMILIES FOUND BY IFE 1 Tipulidae
---	---	--

NET LOSSES

NET GAINS

NOTES

1 Ormosia sp. 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Dytiscidae

NET LOSSES

NET GAINS

NOTES

1 Oreodytes sanmarkii (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Hydroptilidae 2 Limnephilidae

NET LOSSES

NET GAINS

NOTES

1 Hydroptila sp. 1 only
2 Drusus annulatus 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Simuliidae

NET LOSSES

NET GAINS

NOTES

1 Simulium equinum, Simulium ornatum group (pupae)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

Northumbrian

RIVER

Arngill Burn

DATE

27.3.90

SITE

Arngill House

SORTER

DH

SAMPLE CODE

NRA02 3980

AQC OF BMWP FAMILIES

A. IN VIAL

+

B. IN SAMPLE

+

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrobiidae	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Oligochaeta

NET LOSSES

1

NET GAINS

1

NOTES

1 Lymnaea truncatula + Lymnaea peregra in vial
2 Indet Lumbricid 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		1 Oligochaeta*	2 Tipulidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	3 Oligochaeta*
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES

NET GAINS

NOTES

2 Molophilus sp.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Northumbrian

RIVER Horsley Hope Burn

DATE 17.4.91

SITE D/s Confluence

SORTER SS

SAMPLE CODE NRA02 1480

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Perlodidae* 2 Sericostomatidae	3 Beraeidae
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	4 Perlodidae*

NET LOSSES 1

NET GAINS 1

NOTES

3 Beraea maurus
4 Isoperla grammatica

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<input type="text" value="Northumbrian"/>	RIVER	<input type="text" value="Hazon Burn"/>
DATE	<input type="text" value="3.4.91"/>	SITE	<input type="text" value="Whittle Co"/>
SORTER	<input type="text" value="PS"/>	SAMPLE CODE	<input type="text" value="NRA02 0530"/>

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None
B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 1 Perlodidae 2 Scirtidae 3 Tipulidae

NET LOSSES NET GAINS

NOTES

1 Isoperla grammatica
 2 Elodes sp. (larva) 1 only
 3 Tipula sp., Molophilus sp.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Hydrobiidae 2 Glossiphoniidae

NET LOSSES

NET GAINS

NOTES

1 Potamopyrgus jenkinsi 1 only
2 Helobdella stagnalis

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL

B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 1 Hydrobiidae 2 Lepidostomatidae

NET LOSSES

NET GAINS

NOTES

1 Potamopyrgus jenkinsi 1 only
2 Lepidostoma hirtum

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Lymnaeidae 2 Hydrophilidae

NET LOSSES

NET GAINS

NOTES

1 Lymnaea peregra 1 only
2 Hydraena gracilis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<input type="text" value="Northumbrian"/>	RIVER	<input type="text" value="Browney"/>
DATE	<input type="text" value="17.4.91"/>	SITE	<input type="text" value="A167 Bridge"/>
SORTER	<input type="text" value="DH"/>	SAMPLE CODE	<input type="text" value="NRA02 2480"/>

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Erpobdellidae	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES

NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Simuliidae

NET LOSSES

NET GAINS

NOTES

1 Simulium argyreatum/variegatum (larva) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **West Allen**

DATE **2.4.91**

SITE **Carr Shield**

SORTER **SS**

SAMPLE CODE **NRA02 1720**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Polycentropodidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Plectrocnemia conspersa 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION Northumbrian

RIVER Smallhope Burn

DATE 11.4.91

SITE Low Meadow

SORTER SS

SAMPLE CODE NRA02 2580

AQC OF BMWP FAMILIES A. IN VIAL +

B. IN SAMPLE +

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE 1 Hydrobiidae

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE None

NET LOSSES 0

NET GAINS 1

NOTES

1 Potamopyrgus jenkinsi

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	 BMWP FAMILIES NOT FOUND BY IFE 1 Planorbidae 2 Simuliidae* ADDITIONAL FAMILIES FOUND BY IFE None
B	<u>SAMPLE</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	 BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample) ADDITIONAL FAMILIES FOUND BY IFE 3 Hydrophilidae 4 Elmidae 5 Limnephilidae 6 Simuliidae*

NET LOSSES

NET GAINS

NOTES

- 1 Terrestrial snail in vial
- 2,6 Cast pupal skin in vial, Simulium ornatum group (pupa) in sample
- 3 Indet Hydrophilid (larva) 1 only
- 4 Elmis aenea, Limnius volckmari (adults)
- 5 Limnephilus lunatus 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Lumley Park Burn**

DATE **10.4.91**

SITE **Bournmoor**

SORTER **DH**

SAMPLE CODE **NRA02 2280**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE 1 Planorbidae
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE None

NET LOSSES **1**

NET GAINS **0**

NOTES

1 Terrestrial snail found in vial

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Northumbrian</div>	RIVER	<div>Barrasford</div>
DATE	<div>Spring</div>	SITE	<div>D/s Gravel Pit</div>
SORTER	<div>PS</div>	SAMPLE CODE	<div>NRA02 1830</div>
AQC OF BMWP FAMILIES		A. IN VIAL	<div>+</div>
		B. IN SAMPLE	<div>+</div>

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrophilidae	2 Dytiscidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES

1

NET GAINS

1

NOTES

2 Agabus bipustulatus (adult)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES

GAINS

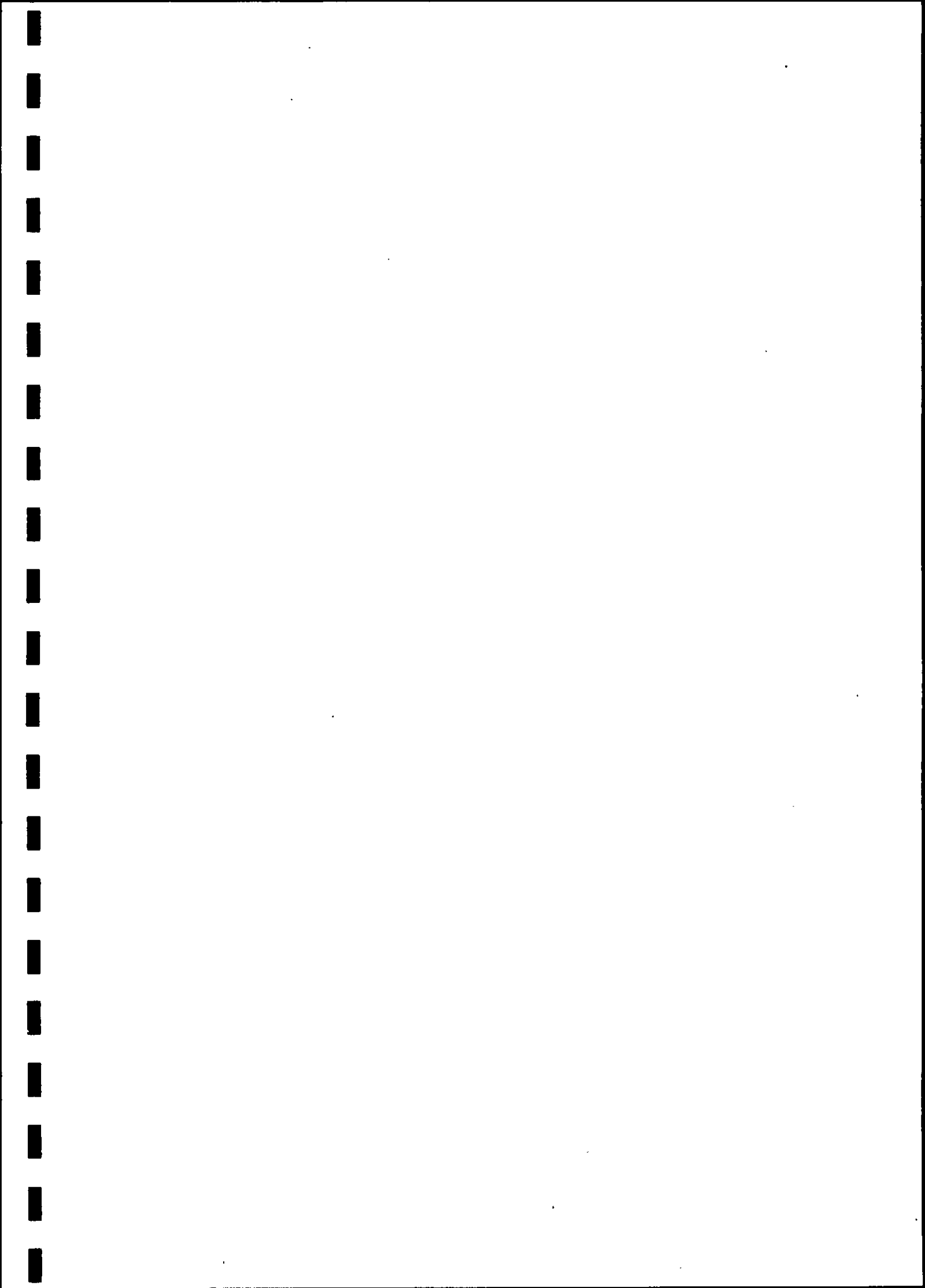
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES

NET GAINS

NOTES



1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Northumbrian</div>	RIVER	<div>Morton Wood Beck</div>
DATE	<div>17.7.91</div>	SITE	<div>B1380 Bridge</div>
SORTER	<div>VW/PS</div>	SAMPLE CODE	<div>NRA02 3220</div>

AQC OF BMWP FAMILIES	A. IN VIAL	<div>+</div>	B. IN SAMPLE	<div>+</div>
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LOSSES		GAINS
A	<u>VIAL</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	 BMWP FAMILIES NOT FOUND BY IFE None ADDITIONAL FAMILIES FOUND BY IFE None
B	<u>SAMPLE</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	 BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample) 1 Glossiphoniidae

NET LOSSES	<div>0</div>	NET GAINS	<div>1</div>
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NOTES

1 Glossiphonia complanata 1 only

This sample repicked as part of an internal AQC exercise by NRA.
1 Additional family added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Summerhouse Beck
DATE	13.8.91	SITE	Carlbury
SORTER	AP	SAMPLE CODE	NRA02 3770

AQC OF BMWP FAMILIES A. IN VIAL ☐+ B. IN SAMPLE ☐+

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE 1 Planorbidae 2 Hydroptilidae
		ADDITIONAL FAMILIES FOUND BY IFE None
B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 3 Lymnaeidae 4 Erpobdellidae

NET LOSSES ☐2 NET GAINS ☐2

NOTES

- 1 Terrestrial snail in vial
- 2 Empty Hydroptilid cases in vial
- 3 Lymnaea peregra
- 4 Indet Erpobdellid juveniles

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Alwin**

DATE **17.7.91**

SITE **Alwinton**

SORTER **PS**

SAMPLE CODE **NRA02 0670**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 1 Ancylidae 2 Hydrophilidae

NET LOSSES **0**

NET GAINS **2**

NOTES

1 Ancylus fluviatilis
2 Hydraena gracilis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<input type="text" value="Northumbrian"/>	RIVER	<input type="text" value="Saltergill Beck"/>
DATE	<input type="text" value="29.7.91"/>	SITE	<input type="text" value="Low Worsal"/>
SORTER	<input type="text" value="SS"/>	SAMPLE CODE	<input type="text" value="NRA02 3540"/>

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE None

NET LOSSES NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	South Tyne
DATE	24.6.91	SITE	Haydon Bridge
SORTER	DH	SAMPLE CODE	NRA02 1590

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None
B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 1 Dytiscidae

NET LOSSES

NET GAINS

NOTES

1 Oreodytes septentrionalis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Ouse Burn**

DATE **2.7.91**

SITE **Salter's Bridge**

SORTER **AP**

SAMPLE CODE **NRA02 1300**

AQC OF BMWP FAMILIES A. IN VIAL ☐

B. IN SAMPLE ☐

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	None	None
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	1 Planorbidae
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Gyraulus albus

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Tees
DATE	15.8.91	SITE	Neasham
SORTER	SS	SAMPLE CODE	NRA02 2920

AQC OF BMWP FAMILIES	A. IN VIAL	B. IN SAMPLE
	+	+

	LOSSES	GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES	0	NET GAINS	0
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1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

Northumbrian

RIVER

Kilton Beck

DATE

10.7.91

SITE

Lodge Wood

SORTER

VW

SAMPLE CODE

NRA02 4120

AQC OF BMWP FAMILIES

A. IN VIAL

+

B. IN SAMPLE

+

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES

0

NET GAINS

0

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Font
DATE	13.8.91	SITE	Mitford
SORTER	DH/DH	SAMPLE CODE	NRA02 0860
AQC OF BMWP FAMILIES		A. IN VIAL	B. IN SAMPLE
		+	+

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Haliplidae 2 Hydrophilidae 3 Sericostomatidae

NET LOSSES	0	NET GAINS	3
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NOTES

- 1 Indet Haliplid larva 1 only
- 2 Hydraena gracilis (adults)
- 3 Sericostoma personatum 1 only

This sample repicked as part of an internal AQC exercise by NRA.
2 additional families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Langley Beck
DATE	13.8.91	SITE	Staindrop
SORTER	DH	SAMPLE CODE	NRA02 3790

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	VIAL	
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	1 Psychomyiidae	None
B	SAMPLE	
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	2 Hydrophilidae

NET LOSSES NET GAINS

NOTES

2 Hydraena gracilis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Allerdean Mill Burn
DATE	13.6.91	SITE	Nabhill
SORTER	PS	SAMPLE CODE	NRA02 0190

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS				
A	<u>VIAL</u>					
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<table><tr><th>BMWP FAMILIES NOT FOUND BY IFE</th><th>ADDITIONAL FAMILIES FOUND BY IFE</th></tr><tr><td>None</td><td>None</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	None	None
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
None	None					

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLe by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES NET GAINS

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

Northumbrian

RIVER

West Allen

DATE

7.6.91

SITE

Burnmouth

SORTER

AP

SAMPLE CODE

NRA02 1710

AQC OF BMWP FAMILIES

A. IN VIAL

+

B. IN SAMPLE

+

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Caenidae

NET LOSSES

0

NET GAINS

1

NOTES

1 Caenis rivulorum 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	<div>Northumbrian</div>	RIVER	<div>Don</div>
DATE	<div>7.8.91</div>	SITE	<div>Jarrow Cem</div>
SORTER	<div>SS</div>	SAMPLE CODE	<div>NRA02 1270</div>

AQC OF BMWP FAMILIES	A. IN VIAL	<div>+</div>	B. IN SAMPLE	<div>+</div>
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LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<div>BMWP FAMILIES NOT FOUND BY IFE</div> <div>None</div> <div>ADDITIONAL FAMILIES FOUND BY IFE</div> <div>None</div>

B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	<div>BMWP FAMILIES NOT FOUND BY IFE</div> <div>(This box only completed when no vial supplied with sample)</div> <div>ADDITIONAL FAMILIES FOUND BY IFE</div> <div>None</div>

NET LOSSES	<div>0</div>	NET GAINS	<div>0</div>
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NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Coquet
DATE	17.7.91	SITE	Low Alwinton
SORTER	PS/DH	SAMPLE CODE	NRA02 0480

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		None
		None
B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		None

NET LOSSES

NET GAINS

NOTES

This sample repicked as part of an internal AQC exercise by NRA.
7 additional families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Wear**

DATE **18.7.91**

SITE **Willington Br**

SORTER **VW**

SAMPLE CODE **NRA02 2130**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Hydrobiidae 2 Lymnaeidae

NET LOSSES **0**

NET GAINS **2**

NOTES

**1 Potamopyrgus jenkinsi
2 Lymnaea peregra 1 only**

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION

RIVER

DATE

SITE

SORTER

SAMPLE CODE

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE None

NET LOSSES

NET GAINS

NOTES

This sample repicked as part of an internal AQC exercise by NRA.
 No additional families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Leven
DATE	25.7.91	SITE	Hutton Rudby
SORTER	VW	SAMPLE CODE	NRA02 3410

AQC OF BMWP FAMILIES A. IN VIAL ☐+ B. IN SAMPLE ☐+

LOSSES		GAINS
A	VIAL	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		1 Psychomyiidae
		None
B	SAMPLE	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)
		2 Lymnaeidae 3 Hydroptilidae

NET LOSSES ☐1 NET GAINS ☐2

NOTES

2 Lymnaea peregra 1 only
3 Hydroptila sp. 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Newhouse Burn
DATE	8.8.91	SITE	A691 Bridge
SORTER	PS	SAMPLE CODE	NRA02 2590

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Hydrobiidae*	2 Lymnaeidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	3 Hydrobiidae* 4 Perlodidae

NET LOSSES NET GAINS

NOTES

2 Lymnaea palustris
3 Potamopyrgus jenkinsi
4 Isoperla grammatica 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Killhope Burn
DATE	28.6.91	SITE	Wearhead
SORTER	VW	SAMPLE CODE	NRA02 2830

AQC OF BMWP FAMILIES A. IN VIAL B. IN SAMPLE

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Nemouridae 2 Perlodidae

NET LOSSES NET GAINS

NOTES

1 Amphinemura sulcicollis 1 only
2 Diura bicaudata 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION	Northumbrian	RIVER	Coldcoats Burn
DATE	4.7.91	SITE	Eastcoats Farm
SORTER	DH	SAMPLE CODE	NRA02 1050

AQC OF BMWP FAMILIES	A. IN VIAL	<input type="text" value="0"/>	B. IN SAMPLE	<input type="text" value="3"/>
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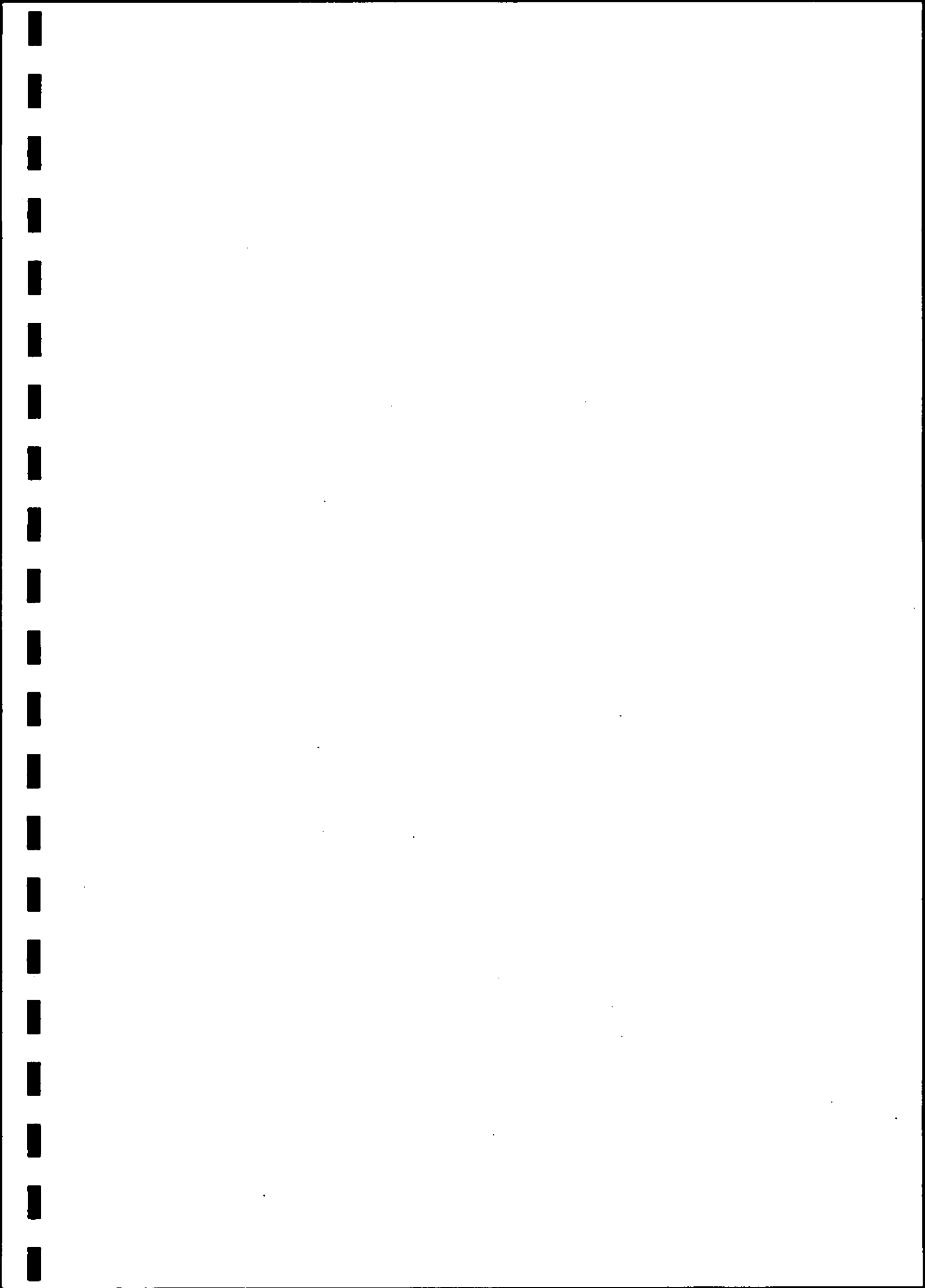
LOSSES		GAINS				
A	<u>VIAL</u> Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	<table><tr><th>BMWP FAMILIES NOT FOUND BY IFE</th><th>ADDITIONAL FAMILIES FOUND BY IFE</th></tr><tr><td>None</td><td>None</td></tr></table>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE	None	None
BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE					
None	None					

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Oligochaeta 2 Corixidae 3 Hydroptilidae

NET LOSSES	<input type="text" value="0"/>	NET GAINS	<input type="text" value="3"/>
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NOTES

- 1 Naididae, Tubificidae
- 2 Indet Corixid nymphs
- 3 Hydroptila sp. 1 only



1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **S. Tyne**

DATE **19.9.91**

SITE **Haltwhistle**

SORTER **DH**

SAMPLE CODE **NRA02 1620**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u> Differences between: 1) BMWP families listed on sample data sheet and 11) BMWP families found in VIAL by IFE	<div>BMWP FAMILIES NOT FOUND BY IFE</div> <div>None</div> <div>ADDITIONAL FAMILIES FOUND BY IFE</div> <div>None</div>

B	SAMPLE		
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE 1 Lymnaeidae 2 Ephemerellidae

NET LOSSES **0**

NET GAINS **2**

NOTES

1 *Lymnaea peregra* 1 only
 2 *Ephemerella ignita* 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **East Allen**

DATE **17.9.91**

SITE **U/s Allenheads**

SORTER **SS/SS**

SAMPLE CODE **NRA02 1700**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES **0**

NET GAINS **0**

NOTES

This sample repicked by NRA as part of an internal AQC exercise.
1 family added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Rennington Burn**

DATE **13.9.91**

SITE **Howick Hall**

SORTER **AP/DH**

SAMPLE CODE **NRA02 0310**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Planorbidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Anisus leucostoma 1 only

This sample repicked by NRA as part of an internal AQC exercise.
No families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Spenn Burn**

DATE **11.10.91**

SITE **Rowlands Gill**

SORTER **VW/SS**

SAMPLE CODE **NRA02 1420**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>		
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE 1 Elmidae

NET LOSSES **0**

NET GAINS **1**

NOTES **1 Limnius volckmari (adult) 1 only**

This sample repicked by NRA as part of an internal AQC exercise.
 2 families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Long Nanny**

DATE **13.9.91**

SITE **Tuggal Grange**

SORTER **AP**

SAMPLE CODE **NRA02 0290**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>		
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)	ADDITIONAL FAMILIES FOUND BY IFE 1 Sialidae

NET LOSSES **0**

NET GAINS **1**

NOTES **1 Sialis lutaria 1 only**

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Wear**

DATE **20.9.91**

SITE **Finchale Park**

SORTER **SS/VW**

SAMPLE CODE **NRA02 2090**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Nemouridae

NET LOSSES **0**

NET GAINS **1**

NOTES **1 Amphinemura sp. 1 only**

This sample repicked by NRA as part of an internal AQC exercise.
No families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Pont Burn**

DATE **11.10.91**

SITE **B6310 Bridge**

SORTER **SS**

SAMPLE CODE **NRA02 1430**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Planorbidae 2 Leptoceridae 3 Lepidostomatidae	4 Limnephilidae 5 Sericostomatidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES **3**

NET GAINS **2**

NOTES

- 1 Indet terrestrial snail in vial
- 4 Indet limnephilid (juvenile)
- 5 Sericostoma personatum

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Tees**

DATE **5.10.91**

SITE **Low Con**

SORTER **PS**

SAMPLE CODE **NRA02 2950**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	None	None
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE		

B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	(This box only completed when no vial supplied with sample)	1 Lymnaeidae 2 Leptophlebiidae
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE		

NET LOSSES **0**

NET GAINS **2**

NOTES

1 Lymnaea sp. (juvenile) 1 only
2 Paraleptophlebia submarginata 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Bedburn Burn**

DATE **10.9.91**

SITE **Newhall**

SORTER **SS**

SAMPLE CODE **NRA02 2720**

AQC OF BMWP FAMILIES A. IN VIAL ☐ +

B. IN SAMPLE ☐ +

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Leptoceridae	2 Hydrophilidae 3 Sericostomatidae

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES ☐ 1

NET GAINS ☐ 2

NOTES

2 *Hydraena gracilis* (adults)
3 *Sericostoma personatum*

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Coquet**

DATE **16.10.91**

SITE **Pauperhaugh**

SORTER **DH**

SAMPLE CODE **NRA02 0450**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Planorbidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Armiger crista 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Tees**

DATE **5.10.91**

SITE **Hurworth**

SORTER **AL/SS**

SAMPLE CODE **NRA02 2930**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Ephemeridae 2 Polycentropodidae None
B	<u>SAMPLE</u>	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample) 3 Gammaridae

NET LOSSES **2**

NET GAINS **1**

NOTES

1,2 Found by NRA in field sorting but not in lab sorting.
 3 Crangonyx pseudogracilis

This sample repicked by NRA as part of an internal AQC exercise.
 5 families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Embleton Burn**

DATE **13.9.91**

SITE **Embleton Mill**

SORTER **VW**

SAMPLE CODE **NRA02 0300**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS	
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES **0**

NET GAINS **0**

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Rookhope Burn**

DATE **10.9.91**

SITE **Eastgate**

SORTER **DH**

SAMPLE CODE **NRA02 2770**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None
B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE 1 Hydrophilidae

NET LOSSES **0**

NET GAINS **1**

NOTES

1 Hydraena gracilis, Helophorus brevipalpis (adults)

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Valley Burn**

DATE **24.9.91**

SITE **Woodhouse Farm**

SORTER **SS**

SAMPLE CODE **NRA02 2610**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES **0**

NET GAINS **0**

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Middle Gill**

DATE **6.11.91**

SITE **Loftus**

SORTER **SS/AP**

SAMPLE CODE **NRA02 4140**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	VIAL	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None

B	SAMPLE	
	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	1 Nemouridae 2 Elmidae

NET LOSSES **0**

NET GAINS **2**

NOTES

- 1 Amphinemura sp. 1 only
- 2 Oulimnius tuberculatus (adult) 1 only

This sample repicked by NRA as part of an internal AQC exercise.
1 family added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Hartley Burn**

DATE **6.9.91**

SITE **Burnfoot**

SORTER **SS**

SAMPLE CODE **NRA02 1770**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE None
		ADDITIONAL FAMILIES FOUND BY IFE None

B	<u>SAMPLE</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE (This box only completed when no vial supplied with sample)
		ADDITIONAL FAMILIES FOUND BY IFE None

NET LOSSES **0**

NET GAINS **0**

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Tinklers Gill**

DATE **30.10.91**

SITE **Embleton**

SORTER **PS**

SAMPLE CODE **NRA02 3150**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Perlodidae	None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Hydrobiidae 3 Hydrophilidae

NET LOSSES **1**

NET GAINS **2**

NOTES

2 Potamopyrgus jenkinsi
3 Hydraena gracilis (adult) 1 only

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Kilton Beck**

DATE **6.11.91**

SITE **Skinningrove**

SORTER **PS/PS**

SAMPLE CODE **NRA02 4110**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES

GAINS

A	VIAL	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	1 Ephemerellidae	None

B	SAMPLE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	2 Heptageniidae

NET LOSSES **1**

NET GAINS **1**

NOTES

1 Ephemerellidae recorded in lab sorting but not in repick
2 Rhithrogena sp. 1 only

This sample repicked by NRA as part of an internal AQC exercise.
3 families added as a result of this repick.

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Grasslees Burn**

DATE **8.10.91**

SITE **Swindon**

SORTER **VW**

SAMPLE CODE **NRA02 0650**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

		LOSSES	GAINS
A	<u>VIAL</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	None	None
B	<u>SAMPLE</u>	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	(This box only completed when no vial supplied with sample)	None

NET LOSSES **0**

NET GAINS **0**

NOTES

1991 RIVER QUALITY SURVEY

AQC - BIOLOGICAL SAMPLES

REGION **Northumbrian**

RIVER **Ridlees Burn**

DATE **8.10.91**

SITE **Linshields**

SORTER **DH**

SAMPLE CODE **NRA02 0680**

AQC OF BMWP FAMILIES A. IN VIAL **+**

B. IN SAMPLE **+**

LOSSES		GAINS
A	<u>VIAL</u>	
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in VIAL by IFE	BMWP FAMILIES NOT FOUND BY IFE
		ADDITIONAL FAMILIES FOUND BY IFE
		1 Sericostomatidae*
		None

B	<u>SAMPLE</u>		
	Differences between: i) BMWP families listed on sample data sheet and ii) BMWP families found in SAMPLE by IFE	BMWP FAMILIES NOT FOUND BY IFE	ADDITIONAL FAMILIES FOUND BY IFE
		(This box only completed when no vial supplied with sample)	
			2 Sericostomatidae*

NET LOSSES **0**

NET GAINS **0**

NOTES

2 Sericostoma personatum